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(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
George E. Smith

Application No.: 09/644,371

Confirmation No.: 1295

Filed: August 23, 2000

Art Unit: 3727

For: APPARATUS AND METHOD FOR
OBSERVING CHEMICAL SUBSTANCES

Examiner: J. C. Merek

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

As required under § 41.37(a), this brief is in furtherance of the Notice of Appeal in this case filed on October 18, 2004. The fees required under § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

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I. REAL PARTY IN INTEREST

The real party in interest for this appeal is Micron Technology, Inc.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 31 claims pending in the application.

B. Current Status of Claims

1. Claims canceled: 1, 3, 9, 13, 18, 23 and 27-72
2. Claims withdrawn from consideration but not canceled: 8, 14-17, 20, 24 and 25
3. Claims pending: 2, 4-8, 10-12, 14-17, 19-22, 24-26 and 73-83
4. Claims allowed: none
5. Claims rejected: 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83

C. Claims on Appeal

Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83 are on appeal.

IV. STATUS OF AMENDMENTS

A Response was filed on September 15, 2004, after issuance of the Final Office Action mailed June 17, 2004. No claims were added, amended, or cancelled in the September 15th Response.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention is related to vessels for observing chemical substances and processes, such as liquid chemical titrations. (Page 1, lines 3-4.) Many chemistry practitioners rely on visual observations to determine when chemical processes and reactions are complete. (Page 1, lines 6-7.) For example, one conventional technique for determining the concentration of an acid is to titrate the acid by adding a basic solution of a known concentration to the acid until the endpoint is achieved. (Page 1, lines 7-9.) When the acid/base solution reaches the end point (*i.e.*, the point at which the exact amount of necessary base has been added to completely react with the acid), the color of a chemical indicator in the acid/base solution changes. (Page 1, lines 9-12.) The practitioner can then calculate the concentration of the acid by measuring the quantity of the base that was required to reach the end point. (Page 1, lines 12-13.)

One characteristic feature of the technique described above is that the chemical indicator may change color very rapidly. (Page 1, lines 14-15.) Accordingly, the practitioner must pay close attention to the process to determine exactly when the color change begins. (Page 1, lines 15-16.) Another characteristic feature is that the color change may initially be subtle; this also requires close attention on the part of the practitioner. (Page 1, lines 16-18.) Accordingly, a problem with this technique is that it can be difficult to accurately and consistently determine the end point of the target chemical if the practitioner fails to observe the initial color change. (Page 1, lines 18-20.)

One approach to address the foregoing problem is to conduct the titration process in a flat-bottomed vessel, such as an Erlenmeyer flask, and place the bottom of the flask against a white background, such as a sheet of paper or paper towel. (Page 1, lines 21-23.) By viewing the chemical solution against a white background, the practitioner can more readily determine when the solution changes color. (Page 1, lines 23-25.) This approach, however, can have several drawbacks. (Page 1, lines 25-26.) For example, if the practitioner uses a slightly differently colored background material for successive titrations, the practitioner may not achieve consistent or repeatable titration results. (Page

1, line 26 to page 2, line 1.) Furthermore, the practitioner may wish to move the flask to achieve an optimal viewing angle, which can be awkward if the practitioner must also move a piece of paper or paper towel held against a surface of the flask. (Page 2, lines 1-3.) Still further, the practitioner's view of the chemical solution in the flask may be distorted by the curvature of the flask at the juncture between the bottom of the flask and the walls of the flask, particularly when the volume of the chemical in the flask is relatively small. (Page 2, lines 3-6.) Therefore, several aspects of the present invention are directed to assist a practitioner in observing a chemical substance within a vessel.

Several embodiments of the present invention resolve this problem by providing a background material between the inner and outer surfaces of a portion of a vessel. (Page 8, lines 20-22; Figure 3C.) For example, one embodiment of a vessel for observing a chemical substance set forth in claim 74 includes a base portion and an optically transmissive wall portion projecting away from the base portion. (Page 4, lines 6, 7 and 16-18.) The base portion includes an outer surface and an inner surface, and the optically transmissive wall portion includes an outer surface, an inner surface, a first region, and a second region opposite the first region. (Page 4, lines 11-14.) The outer surfaces of the base portion and the wall portion define an exterior region, and the inner surfaces of the base portion and the wall portion define an interior region. (Page 4, lines 11-14.) The interior region is configured to contain the chemical substance and has an opening configured to removably receive the chemical substance. (Page 4, lines 14-15.) The vessel further includes a background material having a first surface facing toward the interior region and a second surface facing away from the first surface. (Page 4, lines 21-23.) The background material is positioned between the inner and outer surfaces of the base portion and the wall portion. (Page 8, lines 20-22; Figure 3C.) The background material is configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region. (Page 4, lines 18, 19 and 23-26; page 7, lines 11-19; Figures 2 and 3C.)

Another embodiment of a vessel for observing a chemical substance in accordance with the invention set forth in claim 73 includes a base portion and an optically transmissive wall portion projecting away from the base portion. (Page 4, lines 6, 7 and 16-18.) The base portion includes an outer surface and an inner surface, and the optically transmissive wall portion includes an outer surface, an inner surface, a first region, and a second region opposite the first region. (Page 4, lines 11-14.) The outer surfaces of the base portion and the wall portion define an exterior region, and the inner surfaces of the base portion and the wall portion define an interior region. (Page 4, lines 11-14.) The interior region is configured to contain the chemical substance and has an opening configured to removably receive the chemical substance. (Page 4, lines 14-15.) The vessel further includes a background material having a first surface facing toward the interior region and a second surface facing away from the first surface. (Page 4, lines 21-23.) The background material is positioned between the inner and outer surfaces of the base portion and the wall portion. (Page 8, lines 20-22; Figure 3C.) The background material is configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region. (Page 4, lines 18, 19 and 23-26; page 7, lines 11-19; Figures 2 and 3C.) The second region of the wall portion is optically transmissive and does not contain a portion of the background material between the opening and the base portion. (Page 4, lines 16-18; page 6, line 28 to page 7, line 5; Figures 2 and 3C.)

Another embodiment of a vessel for observing a chemical substance in accordance with the invention set forth in claim 75 includes a base portion and an optically transmissive wall portion projecting away from the base portion. (Page 4, lines 6, 7 and 16-18.) The base portion includes an outer surface and an inner surface, and the optically transmissive wall portion includes an outer surface, an inner surface, a first region, and a second region opposite the first region. (Page 4, lines 11-14.) The outer surfaces of the base portion and the wall portion define an exterior region, and the inner surfaces of the base portion and the wall portion define an interior region. (Page 4, lines 11-14.) The

interior region is configured to contain the chemical substance and has an opening configured to removably receive the chemical substance. (Page 4, lines 14-15.) The vessel further includes a background material having a first surface facing toward the interior region and a second surface facing away from the first surface. (Page 4, lines 21-23.) The background material is positioned between the inner and outer surfaces of the base portion and the wall portion. (Page 8, lines 20-22; Figure 3C.) The background material is also positioned in the first region at a first distance spaced apart from the base portion and is absent from the second region at a second distance spaced apart from the base portion. (Page 6, line 28 to page 7, line 5; Figures 2 and 3C.) The second distance is at least approximately equal to the first distance. (Page 6, line 28 to page 7, line 5; Figures 2 and 3C.)

VI. GROUND OF REJECTION PRESENTED FOR REVIEW ON APPEAL

(A) Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83 stand rejected under 35 U.S.C. § 112, first paragraph;

(B) Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83 stand rejected under 35 U.S.C. § 112, second paragraph;

(C) Claims 4-6, 10-12, 19, 21, 26, 73-75 and 78-83 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,263,734 to Bradshaw ("Bradshaw") in view of U.S. Patent No. 2,984,035 to Nalle ("Nalle");

(D) Claims 2 and 76 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bradshaw and Nalle in view of U.S. Patent No. 3,338,458 to Hultgren ("Hultgren"); and

(E) Claims 7 and 80 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bradshaw and Nalle in view of U.S. Patent No. 3,912,100 to Graham et al. ("Graham").

VII. ARGUMENTS

A. Response to the Section 112, First Paragraph, Rejection of Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83

Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83 were rejected under 35 U.S.C. § 112, first paragraph. The Examiner states, "The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention." (Final Office Action, page 2.) In particular, with regard to claims 73 and 74, the Examiner alleges that "it has not been adequately disclosed that 'the background material being configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region'." (Final Office Action, page 2.) Regarding claim 75, the Examiner asserts that "it has not been adequately disclosed that 'the background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance'." (Final Office Action, page 2.) For the reasons explained below, the Section 112, first paragraph, rejection of these claims is improper because the specification describes the features of the claims in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time the application was filed.

The first paragraph of 35 U.S.C. § 112 requires that "[t]he specification shall contain a written description of the invention." "To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention." (MPEP § 2163 (citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991).) The inventor "shows possession of the claimed invention by describing the claimed invention with all of its limitations using such

descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention." (MPEP § 2163 (citing *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).)

At least Figures 2 and 3C and the corresponding text on at least page 4, lines 18, 19 and 23-26, and page 7, lines 9-19, of the present application illustrate that the patent specification describes the claimed invention, and in particular the above-noted features identified by the Examiner, in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. For example, the background materials 250 and 350c in the vessels 220 and 320 illustrated in Figures 2 and 3C, respectively, are examples of a "background material being configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region," as recited in claim 73. Moreover, the background materials 250 and 350c illustrated in Figures 2 and 3C, respectively, are also examples of a "background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance," as recited in claim 75. Furthermore, with regard to the background material 250 illustrated in Figure 2, the patent specification recites the following:

An advantage of this feature is that the practitioner can view the chemical substance 170 within the vessel 220 against both the lower part 258 and the upper part 259 of the background material 250. . . . Another feature of an embodiment of the vessel 220 described above with reference to Figure 2 is that the periphery 257 of the background material 250 has an elliptical shape. Accordingly, the background material 250 can cover part of the interface region 223 and/or the wall portion 222, while the remainder of the wall portion 222 is uncovered to give the

practitioner a clear view of the chemical substance 170. (Page 7, lines 11-13 and 15-19.)

Therefore, Figures 2 and 3C and the corresponding text show that the applicant had possession of the claimed invention at the time the application was filed. Accordingly, the Section 112, first paragraph, rejection of claims 73-75 and their respective dependent claims is improper and should be withdrawn.

Regarding claims 5 and 78, the Examiner further alleges, "it has not been adequately disclosed that the background that is between the inner and outer surface of the wall portion or the base portion (see Fig. 3C of the instant invention) also includes a protective layer. See the specification of the instant invention on page 8, lines 25-26, where it is stated that there is no need for a protective coating." (Final Office Action, pages 2-3.) Although the specification notes that an advantage of the particular embodiment illustrated in Figure 3C is that the background material does not require a protective coating, the specification does not state that the background material in this particular embodiment cannot have a protective coating. In other words, even though an advantage of one embodiment is that a protective coating is not required for that embodiment, this statement does not exclude the use of a protective coating in other embodiments. Moreover, in several embodiments described in the specification, the background material has a protective coating. There is no requirement that every embodiment of the invention be described in the application. Accordingly, the Section 112, first paragraph, rejection of claims 5 and 78 is improper and should be withdrawn because the specification shows that the applicant had possession of the claimed invention at the time the application was filed.

B. Response to the Section 112, Second Paragraph, Rejection of Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83

Claims 2, 4-7, 10-12, 19, 21, 22, 26 and 73-83 were rejected under 35 U.S.C. § 112, second paragraph. The second paragraph of 35 U.S.C. § 112 requires that "the scope of the claim [be] clear to a hypothetical person possessing the ordinary level of skill in the

pertinent art." (MPEP § 2171.) For the reasons described below, the scope of these claims would be clear to one of ordinary skill in the art.

Claim 73 recites, *intra alia*, a "background material being configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region." Claim 74 recites, *intra alia*, a "background material being configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region." Regarding these claim features, the Examiner alleges, "It is not clear what structure is required to satisfy this limitation. It is not clear what is being claimed." (Final Office Action, pages 3-4.) The undersigned attorney is puzzled as to why it is not clear to the Examiner what structure is required to satisfy these limitations. One of ordinary skill in the art would understand that these claim features define the configuration and position of the background material in the vessels.

Claim 75 includes, *intra alia*, a "background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance." Regarding this claim feature, the Examiner states, "It is not clear what structure is required to satisfy this limitation. It is not clear what is being claimed." (Final Office Action, page 4.) The undersigned attorney is puzzled as to why it is not clear to the Examiner what structure is required to satisfy this claim limitation. One of ordinary skill in the art would understand that this claim feature defines the configuration and position of the background material.

Claims 5 and 78 include, *inter alia*, "a protective layer adjacent to the second surface of the background material." Regarding this claim feature, the Examiner states, "It is not clear what structure is required to satisfy this limitation. It is not clear what is being claimed." (Final Office Action, page 4.) The undersigned attorney is puzzled as to why it

is not clear to the Examiner what structure is required to satisfy this claim limitation. One of ordinary skill in the art would understand that this claim feature recites a protective layer adjacent to the second surface of the background material. Because the scope of these claims would be clear to a person possessing the ordinary level of skill in the pertinent art, the Section 112, second paragraph, rejection of these claims is improper and should be withdrawn.

C. Response to the Section 103(a) Rejection Over Bradshaw and Nalle of Claims 4-6, 10-12, 19, 21, 26, 73-75 and 78-83

Claims 4-6, 10-12, 19, 21, 26, 73-75 and 78-83 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bradshaw in view of Nalle. "[T]he examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d, 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the Examiner needs to (a) identify prior art references that disclose all the elements of the claims, and (b) provide a suggestion or motivation to modify the references to produce the claimed invention. (MPEP § 2143.) Moreover, the Examiner must "identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 U.S.P.Q.2d (BNA) 1461, 1462 (Bd. Pat. App. & Interf. 1990). For the reasons described below, the Examiner has failed to satisfy his burden of presenting a *prima facie* case of obviousness because the combination of Bradshaw and Nalle fails to disclose all the elements of the claims and there is no motivation to modify the references to include the claimed invention.

1. Claim 74 Is Directed to a Vessel Having a Background Material Configured so that at Least Approximately the Entire Surface of the Background Material in a Base Portion and in a First Region of a Wall Portion Is Visible Through a Second Region of the Wall Portion from an Exterior Region

Claim 74 is directed to a vessel for observing a chemical substance. The vessel includes a base portion, an optically transmissive wall portion projecting away from the base portion, and a background material. The base portion has an inner surface and an

outer surface. The optically transmissive wall portion has an inner surface, an outer surface, a first region, and a second region opposite the first region. The outer surfaces of the base and wall portions define an exterior region, and the inner surfaces of the base and wall portions define an interior region. The interior region is configured to contain the chemical substance and has an opening configured to removably receive the chemical substance. The background material has a first surface facing toward the interior region and a second surface facing away from the first surface. The background material is positioned between the inner and outer surfaces of the base portion and the wall portion. The background material is configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region. Accordingly, the background material allows a practitioner to view the chemical substance against the background material without having to separately support and move an adjacent piece of background material, such as a sheet of paper or a paper towel.

2. Bradshaw Discloses a Ceramic Cup with a Sheet in a Peripheral Wall

Bradshaw discloses a ceramic cup 11 having a peripheral wall 13 with a thickened wall portion 15. The thickened wall portion 15 includes a recessed area 17 with a flat bottom wall 19. A sheet or strip 23 having a picture is placed within the recessed area 17 and secured to the flat bottom wall 19 with a suitable cement 27. A transparent lense or window 29 of plastic material is positioned in the recessed area 17 over the sheet 23.

3. Nalle Discloses an Ornamental Double-Walled Tumbler

Nalle discloses a tumbler having an outer shell 10, an inner shell 11, an ornamental sheet 15 interposed between the side walls of the outer and inner shells 10 and 11, and a paper disk 12 interposed between the base portions of the outer and inner shells 10 and 11. The tumbler also has a flared upper edge 18 that curves radially outward as it projects away from the base. The ornamental sheet 15 extends from the flared edge 18 to the base all the way around the tumbler. The ornamental sheet 15 and paper disk 12 enhance

the heat insulating properties of the tumbler "so that a cold drink stays cold longer, without moisture or dew dripping from its outer walls, while a hot drink stays hot longer, and can be held in the hand without discomfort." (Nalle, column 2, lines 55-58.)

4. Bradshaw and Nalle Fail to Disclose or Suggest, *Inter Alia*, A Background Material Configured so that at least Approximately the Entire First Surface of the Background Material in a Base Portion and in a First Region of a Wall Portion is Visible Through a Second Region of the Wall Portion from an Exterior Region

The combination of Bradshaw and Nalle fails to disclose, *inter alia*, "an optically transmissive wall portion . . . having an inner surface, an outer surface, a first region, and a second region opposite the first region" with "a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region," as recited in claim 74. The only optically transmissive wall portion of Bradshaw's cup is the window 29. Accordingly, assuming for the sake of argument that the Bradshaw's window and sheet correspond at least in part to the optically transmissive wall portion and background material, respectively, of claim 74, Bradshaw's sheet is not positioned between the inner and outer surfaces of Bradshaw's window, nor is the interior facing surface of the sheet visible through the window from an exterior region, as required by claim 74. To the contrary, Bradshaw's sheet is positioned between the window and the peripheral wall, and only the exterior facing surface of Bradshaw's sheet is visible through the window from an exterior region.

Alternatively, assuming for the sake of argument that Nalle's ornamental sheet and paper disk correspond to the background material of claim 74, Nalle's ornamental sheet and paper disk are not configured so that at least approximately the entire interior facing surfaces of the paper disk and ornamental sheet are visible through a region of Nalle's side

wall, as required by claim 74. To the contrary, Nalle's ornamental sheet extends from the base to the flared edge completely around the side wall of the tumbler, and accordingly, obstructs the view through the side wall of most, if not all, of the paper disk in the base. Therefore, the combination of Bradshaw and Nalle fails to disclose all the features of claim 74.

Moreover, one of ordinary skill in the art would not be motivated to modify Nalle's tumbler to include the features of claim 74 because such a combination would destroy one purpose of Nalle's invention. Nalle states, "One of the objects of my invention is to provide a tumbler whose walls are heat-insulating." (Nalle, column 1, lines 16-17.) Nalle explains that the "heat-insulating effect may be enhanced by the interposition of [the ornamental] sheet 15 between shells 10, 11, since this sheet may be of such a nature as to provide a heat-barrier." (Nalle, column 2, lines 58-60.) Accordingly, Nalle's tumbler includes an ornamental sheet that extends from the flared edge to the base all the way around the tumbler to thermally insulate the drink in the tumbler, and thereby accomplish one purpose of Nalle's invention. If one were to modify Nalle's tumbler to remove a portion of the ornamental sheet in the side wall, the thermal insulating characteristics of that portion of the side wall would be impaired and one purpose of Nalle's invention would be thwarted. Therefore, one of ordinary skill in the art would not be motivated to modify Nalle's tumbler to include the above-noted feature of claim 74.

Furthermore, even assuming for the sake of argument that, as the Examiner suggests, it would be obvious to place Nalle's paper disk in the bottom of Bradshaw's cup, such a modification of Bradshaw's cup would not include the features of claim 74. For example, the paper disk would not be visible through Bradshaw's window from an exterior region because (a) the portion of the bottom of Bradshaw's cup between the paper disk and the interior region is not optically transmissive, (b) the portion of the peripheral wall between the sheet and the interior region of Bradshaw's cup is not optically transmissive, and (c) Bradshaw's sheet obstructs the view through the window of anything behind the sheet. Consequently, the combination of Bradshaw and Nalle fails to disclose or suggest

each and every feature of claim 74. Therefore, the Section 103(a) rejection of claim 74 is improper and should be withdrawn.

Claims 4-6 and 10-12 depend from claim 74. Accordingly, the Section 103(a) rejection of these claims is improper and should be withdrawn for the reasons discussed above with reference to claim 74 and for the additional features of these claims.

5. Claim 73 Is Directed to a Vessel Having a Background Material Configured so that (a) the Entire Surface of the Background Material in a Base Portion and in a First Region of a Wall Portion Is Visible Through a Second Region of the Wall Portion from an Exterior Region, and (b) the Second Region of the Wall Portion Does not Contain a Portion of the Background Material Between the Opening and the Base Portion

Claim 73 is directed to a vessel for observing a chemical substance. The vessel includes a base portion, an optically transmissive wall portion projecting away from the base portion, and a background material. The base portion has an inner surface and an outer surface. The optically transmissive wall portion has an inner surface, an outer surface, a first region, and a second region opposite the first region. The outer surfaces of the base and wall portions define an exterior region, and the inner surfaces of the base and wall portions define an interior region. The interior region is configured to contain the chemical substance and has an opening configured to removably receive the chemical substance. The background material has a first surface facing toward the interior region and a second surface facing away from the first surface. The background material is positioned between the inner and outer surfaces of the base portion and the wall portion. The background material is configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region. The background material is also positioned so that the second region of the optically transmissive wall portion does not contain a portion of the background material between the opening and the base portion. Accordingly, the background material allows a practitioner to view the chemical substance

against the background material without having to separately support and move an adjacent piece of background material, such as a sheet of paper or a paper towel.

6. Bradshaw and Nalle Fail to Disclose, *Inter Alia*, a Background Material Configured so that (a) the Entire Surface of the Background Material in a Base Portion and in a First Region of a Wall Portion Is Visible Through a Second Region of the Wall Portion from an Exterior Region, and (b) the Second Region of the Wall Portion Does Not Contain a Portion of the Background Material Between the Opening and the Base Portion

As described above with reference to claim 74, the combination of Bradshaw and Nalle fails to disclose or suggest, *inter alia*, "an optically transmissive wall portion . . . having an inner surface, an outer surface, a first region, and a second region opposite the first region" with "a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region," as recited in claim 73.

The combination of Bradshaw and Nalle also fails to disclose, *inter alia*, a "second region of the wall portion [that] is optically transmissive and does not contain a portion of the background material between the opening and the base portion," as recited in claim 73. The only optically transmissive wall portion of Bradshaw's cup is the window. Accordingly, assuming for the sake of argument that Bradshaw's window and sheet correspond at least in part to the wall portion and background material, respectively, of claim 73, there is no region of Bradshaw's window that does not contain a portion of the sheet, as required by claim 73. To the contrary, Bradshaw's sheet is adjacent to the entire window. Alternatively, assuming for the sake of argument that Nalle's side wall and ornamental sheet correspond at least in part to the wall portion and background material, respectively, of claim 73, there is no region of Nalle's side wall that does not contain a

portion of the ornamental sheet between the opening and the base portion. Consequently, the combination of Bradshaw and Nalle fails to disclose each and every feature of claim 73. Therefore, the Section 103(a) rejection of claim 73 is improper and should be withdrawn.

Claims 19, 21 and 26 depend from claim 73. Accordingly, the Section 103(a) rejection of these claims is improper and should be withdrawn for the reasons discussed above with reference to claim 73 and for the additional features of these claims.

7. Claim 75 Is Directed to a Vessel Having a Background Material Positioned in a First Region of an Optically Transmissive Wall Portion and Absent from a Second Region of the Optically Transmissive Wall Portion

Claim 75 is directed to a vessel for observing a chemical substance. The vessel includes a base portion, an optically transmissive wall portion projecting away from the base portion, and a background material. The base portion has an outer surface and an inner surface. The optically transmissive wall portion has an inner surface, an outer surface, a first region, and a second region opposite the first region. The outer surfaces of the base and wall portions define an exterior region, and the inner surfaces of the base and wall portions define an interior region. The interior region is configured to contain the chemical substance and has an opening configured to removably receive the chemical substance. The background material has a first surface facing toward the interior region and a second surface facing away from the first surface. The background material is positioned between the inner and outer surfaces of the base portion and the wall portion. The background material is positioned in the first region of the wall portion at a first distance spaced apart from the base portion, and the background material is absent from the second region of the wall portion at a second distance spaced apart from the base portion. The second distance is at least approximately equal to the first distance. Accordingly, the background material allows a practitioner to view the chemical substance against the background material without having to separately support and move an adjacent piece of background material, such as a sheet of paper or a paper towel.

8. Bradshaw and Nalle Fail to Disclose, *Inter Alia*, a Background Material Positioned in a First Region of a Wall Portion and Absent from a Second Region of the Wall Portion

The combination of Bradshaw and Nalle fails to disclose, *inter alia*, "an optically transmissive wall portion . . . having an inner surface, an outer surface, a first region, and a second region opposite the first region" with a "background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance," as recited in claim 75. The only optically transmissive wall portion of Bradshaw's cup is the window. Accordingly, assuming for the sake of argument that Bradshaw's window and sheet correspond at least in part to the optically transmissive wall portion and background material, respectively, of claim 75, Bradshaw's sheet is not positioned between the inner and outer surfaces of Bradshaw's window. Nor is Bradshaw's sheet positioned in a first region of the window at a first distance spaced apart from the base and absent from a second portion of the window at a second distance spaced apart from the base, with the first and second distances approximately equal, as required by claim 75. To the contrary, Bradshaw's sheet is positioned between the window and the peripheral wall, and the sheet is adjacent to the entire window.

Alternatively, assuming for the sake of argument that Nalle's ornamental sheet and paper disk correspond to the background material of claim 75, Nalle's sheet is not positioned in a first region of the side wall at a first distance spaced apart from the base and absent from a second region of the side wall at a second distance spaced apart from the base, with the first and second distances approximately equal. To the contrary, Nalle's ornamental sheet extends uniformly from the base to the flared edge all the way around the side wall of the tumbler. Consequently, the combination of Bradshaw and Nalle fails to disclose each and every feature of claim 75. Therefore, the Section 103(a) rejection of claim 75 is improper and should be withdrawn.

Claims 76-83 depend from claim 75. Accordingly, the Section 103(a) rejection of these claims is improper and should be withdrawn for the reasons discussed above with reference to claim 75 and for the additional features of these claims.

D. Response to the Section 103(a) Rejection of Claims 2 and 76

Claims 2 and 76 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bradshaw and Nalle in view of Hultgren. Claims 2 and 76 are directed to the vessels of claims 74 and 75, respectively, wherein the background material includes a paint layer. In rejecting these claims, the Examiner cited Bradshaw and Nalle as applied to claims 74 and 75, and the Examiner cites Hultgren for the proposition that this reference teaches a decoration between two layers. The Examiner concludes that a person skilled in the art would be motivated to modify Nalle's tumbler to include a paint layer instead of an ornamental sheet.

The Section 103(a) rejection of claims 2 and 76 over Bradshaw, Nalle, and Hultgren is improper and should be withdrawn because Hultgren does not cure the above-noted deficiencies of Bradshaw and Nalle. For example, Hultgren does not disclose or provide motivation to add to Nalle's tumbler "a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region," as recited by claim 74. Nor does Hultgren disclose or provide motivation to add to Nalle's tumbler a "background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance," as recited in claim 75.

Moreover, the Section 103(a) rejection of claims 2 and 76 over Bradshaw, Nalle, and Hultgren is improper and should be withdrawn because none of the references disclose a background material that includes a paint layer. Hultgren discloses a lipstick device having a colored inner sleeve, a transparent outer sleeve, and indicia printed on the inner sleeve that is visible through the transparent outer sleeve. Although Hultgren does not disclose a paint layer, the Examiner asserts, "It would have been obvious to employ ink in the above printing since it is a proven way to accomplish the printing task. Moreover, ink is synonymous with printing. The ink has a layer and satisfies the limitation of the paint layer. There is no structural difference between the two." (Final Office Action, page 6.) The undersigned attorney disagrees with the Examiner's assertion and notes that ink and paint are two different substances that are applied through different processes. Furthermore, there are structural differences between a layer of ink and a layer of paint because, for example, the thickness of a layer of ink is typically less than the thickness of a layer of paint. Therefore, the combination of Bradshaw, Nalle, and Hultgren fails to disclose all the features of claims 2 and 76.

Even if Hultgren's ink layer satisfied the paint-layer claim feature, one skilled in the art would not be motivated to include a paint layer in Nalle's tumbler rather than the ornamental sheet because such a modification would destroy one purpose of Nalle's invention. Nalle states, "One of the objects of my invention is to provide a tumbler whose walls are heat-insulating." (Nalle, column 1, lines 16-17.) Nalle explains that the "heat-insulating effect may be enhanced by the interposition of [the ornamental] sheet between shells, since this sheet may be of such a nature as to provide a heat-barrier." (Nalle, column 2, lines 58-60.) Accordingly, Nalle's tumbler includes an ornamental sheet that extends from the flared edge to the base all the way around the tumbler to thermally insulate the drink in the tumbler, and thereby accomplish one purpose of Nalle's invention. If one were to modify Nalle's tumbler to substitute a layer of paint for the ornamental sheet in the side wall, the thermal insulating characteristics of the side wall would be impaired and one purpose of Nalle's invention would be thwarted. Therefore, one of ordinary skill in the art would not be motivated to modify Nalle's tumbler to include the features of claims 2

and 76. Accordingly, the Section 103(a) rejection of claims 2 and 76 is improper and should be withdrawn because (a) the combination of references fails to disclose all the features of these claims, and (b) one skilled in the art would not be motivated to modify Nalle's tumbler to include all the features of the claims.

E. Response to the Section 103(a) Rejection of Claims 7 and 80

Claims 7 and 80 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bradshaw and Nalle in view of Graham. Claims 7 and 80 are directed to the vessels of claims 74 and 75, wherein in the background material is opaque. In rejecting these claims, the Examiner cited Bradshaw and Nalle as applied to claims 74 and 75, and the Examiner cites Graham for the proposition that this reference teaches an opaque surface. The Examiner concludes that a person skilled in the art would be motivated to make the sheet in Bradshaw's cup opaque.

The Section 103(a) rejection of claims 7 and 80 over Bradshaw, Nalle, and Graham is improper and should be withdrawn because Graham does not cure the above-noted deficiencies of Bradshaw and Nalle. For example, Graham does not disclose or provide motivation to add to Bradshaw's cup "a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region," as recited by claim 74. Nor does Graham disclose or provide motivation to add to Bradshaw's cup a "background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance," as recited in claim 75. Accordingly, the Section 103(a) rejection of claims 7 and 80 is

improper and should be withdrawn because the combination of references fails to disclose or suggest all the features of these claims.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

IX. EVIDENCE

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in II. above, or copies of decisions in related proceedings are not provided, hence no Appendix is included.

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Jan. 18, 2005

Respectfully submitted,

By *David T. Dutcher*

David T. Dutcher

Registration No.: 51,638

PERKINS COIE LLP

P.O. Box 1247

Seattle, Washington 98111-1247

(206) 359-8000

(206) 359-7198 (Fax)

Attorney for Applicant

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/644,371

1. (Cancelled)
2. (Previously Presented) The vessel of claim 74 wherein the background material includes a paint layer, further wherein the first surface of the background material is defined by a first surface of the paint layer and the second surface of the background material is defined by the second surface of the paint layer.
3. (Cancelled)
4. (Previously Presented) The vessel of claim 74 wherein the base portion, the wall portion and the interface region are integrally formed with each other.
5. (Previously Presented) The vessel of claim 74, further comprising a protective layer adjacent to the second surface of the background material.
6. (Previously Presented) The vessel of claim 74 wherein the background material has a single hue.
7. (Previously Presented) The vessel of claim 74 wherein the background material is opaque.
8. (Withdrawn) The vessel of claim 1 wherein a first portion of the background material has a first hue and a second portion of the background material has a second hue different than the first hue.

9. (Cancelled)

10. (Previously Presented) The vessel of claim 74 wherein at least a portion of the background material is white.

11. (Previously Presented) The vessel of claim 74 wherein at least a portion of the background material is black.

12. (Previously Presented) The vessel of claim 74 wherein the background material covers at least approximately the entire base portion.

13. (Cancelled)

14. (Withdrawn) The vessel of claim 1 wherein the background material includes a flexible sheet adhesively bonded to the base portion and/or the wall portion.

15. (Withdrawn) The vessel of claim 1 wherein the background material includes an elongated strip.

16. (Withdrawn) The vessel of claim 1 wherein a perimeter of the background material on the wall portion has an elliptical shape.

17. (Withdrawn) The vessel of claim 1 wherein the base portion has a generally circular shape and the wall portion has a generally conical lower portion and a generally cylindrical upper portion.

18. (Cancelled)

19. (Previously Presented) The vessel of claim 73 wherein the background material has a single hue.

20. (Withdrawn) The vessel of claim 18 wherein a first portion of the background material has a first hue and a second portion of the background material has a second hue different than the first hue.

21. (Previously Presented) The vessel of claim 73 wherein at least a portion of the background material is white.

22. (Previously Presented) The vessel of claim 73 wherein the background material covers at least approximately the entire base portion.

23. (Cancelled)

24. (Withdrawn) The vessel of claim 18 wherein the background material includes a flexible sheet adhesively bonded to the base portion and/or the wall portion.

25. (Withdrawn) The vessel of claim 18 wherein the background material includes an elongated strip.

26. (Previously Presented) The vessel of claim 73 wherein the base portion has a generally circular shape and the wall portion has a generally conical lower part adjacent to the base portion and a generally cylindrical upper part adjacent to the lower part.

27-72. (Cancelled)

73. (Previously Presented) A vessel for observing a chemical substance, comprising:

- a base portion having an outer surface and an inner surface;
- an optically transmissive wall portion projecting away from the base portion and having an inner surface, an outer surface, a first region, and a second region opposite the first region, the outer surfaces of the base portion and the wall portion defining an exterior region, the inner surfaces of the base portion and the wall portion defining an interior region, the interior region being configured to contain the chemical substance and having an opening configured to removably receive the chemical substance; and
- a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being configured so that the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region, wherein the second region of the wall portion is optically transmissive and does not contain a portion of the background material between the opening and the base portion.

74. (Previously Presented) A vessel for observing a chemical substance, comprising:

- a base portion having an outer surface and an inner surface;
- an optically transmissive wall portion projecting away from the base portion and having an inner surface, an outer surface, a first region, and a second region opposite the first region, the outer surfaces of the base portion and the wall portion defining an exterior region, the inner surfaces of the base portion and

the wall portion defining an interior region, the interior region being configured to contain the chemical substance and having an opening configured to removably receive the chemical substance; and

a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being configured so that at least approximately the entire first surface of the background material in the base portion and in the first region of the wall portion is visible through the second region of the wall portion from the exterior region.

75. (Previously Presented) A vessel for observing a chemical substance, comprising:

a base portion having an outer surface and an inner surface;

an optically transmissive wall portion projecting away from the base portion and having an inner surface, an outer surface, a first region, and a second region opposite the first region, the outer surfaces of the base portion and the wall portion defining an exterior region, the inner surfaces of the base portion and the wall portion defining an interior region, the interior region being configured to contain the chemical substance and having an opening configured to removably receive the chemical substance; and

a background material having a first surface facing toward the interior region and a second surface facing away from the first surface, the background material being positioned between the inner and outer surfaces of the base portion and the wall portion, the background material being positioned in the first region at a first distance spaced apart from the base portion and being absent from the second region at a second distance spaced apart from the base portion, the second distance being at least approximately equal to the first distance.

76. (Previously Presented) The vessel of claim 75 wherein the background material includes a paint layer, and wherein the first surface of the background material is defined by a first surface of the paint layer and the second surface of the background material is defined by the second surface of the paint layer.

77. (Previously Presented) The vessel of claim 75 wherein the base portion, the wall portion, and the interface region are integrally formed with each other.

78. (Previously Presented) The vessel of claim 75, further comprising a protective layer adjacent to the second surface of the background material.

79. (Previously Presented) The vessel of claim 75 wherein the background material has a single hue.

80. (Previously Presented) The vessel of claim 75 wherein the background material is opaque.

81. (Previously Presented) The vessel of claim 75 wherein at least a portion of the background material is white.

82. (Previously Presented) The vessel of claim 75 wherein at least a portion of the background material is black.

83. (Previously Presented) The vessel of claim 75 wherein the background material covers at least approximately the entire base portion.